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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,651	06/23/2003	Byoung-Chul Bae	1349.1237	6133
21171	7590	10/20/2004	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			NGO, HOANG X	
			ART UNIT	PAPER NUMBER
			2852	

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/600,651	BAE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Hoang Ngo	2852	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-14 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____.  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                                    |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 8 is objected to because of the following informalities: Claim 8, line 5-6, the term, "the first and second transistor" should be changed to -the first and second resistor- - in order to avoid problem with antecedent basis.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 3, 4, and 10-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Adachi et al (U.S. Pat. No. 6,640,063).

Adachi et al disclose a charging voltage controller 13 of an image forming apparatus comprising a charging roller 2 for charging a photoconductive drum 1 with a predetermined charging voltage(i.e. peak to peak voltage); a high voltage supply unit 12 for supplying the predetermined charging voltage to the charging roller; an electric current detecting unit 14 for detecting an electrical current flowing to the charging roller, and a control unit 13 for supplying first and second test voltages to the charging roller (Col. 12, lines 4-8), determining a first

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reference voltage to be applied to the charging roller based on data from the electric current detecting unit outputted in response to the first test voltage (Col. 12, lines 13-40), calculating slope data based on the electrical current data detected from the electric current detecting unit in response to the first and second test voltages (Col. 12, lines 13-40), and determining the charging voltage to be applied to the charging roller as a sum of the first reference voltage and a preset offset voltage that corresponding to the slope data (Col. 12, lines 37-43).

Adachi et al further disclose the controller supplies the high voltage supply unit with the first test voltage having a greater voltage before the second test voltage (Fig. 6) and the first voltage is also based on an environment factor such as humidity (Col. 17, lines 19-28).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a

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later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 2, 5, 6, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adachi et al in view of Saito et al (U.S. Pat No 6,615,002).

As discussed above, Adachi et al, disclose every aspects of Applicant's claimed invention except for a storage unit capable of storing a first lookup table containing environmental factor and a second lookup table containing offset voltage data, the high voltage supply unit comprising a transformer having a primary winding coupled between a potential and the controller and a secondary winding coupled to the charging roller and the current detecting unit. However, Saito et al show that it is well known to use storage unit CPU 500 for storing lookup tables (Col. 10, lines 16-23) and a transformer 42 having primary winding coupled between a potential 41 and the controller 47 and secondary winding coupled between the charging roller 20 and the current detecting unit 44 (Fig. 6). It would have been obvious to one having ordinary skill in the art to provide the control unit of Adachi et al with the storage unit and the transformer device as taught by Saito et al so that ease of usage and high voltage potential can be used.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Adachi et al in view of Nakaya (U.S. Pat. No. 5,132,869).

As discussed above, Adachi et al, disclose every aspects of Applicant's claimed invention except for a pulse width-modulating unit coupled between the

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controller and the primary winding of the transformer. However, Nakaya shows that it is well known to use the pulse width-modulating unit 109 between the controlling circuit and the primary winding of the transformer 111 (Fig. 5). It would have been obvious to one having ordinary skill in the art to provide the control unit of Adachi et al with the pulse width modulating unit as taught by Nakaya in order to have better regulation and control for the power supplied by the transformer.

### ***Allowable Subject Matter***

8. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: None of the prior art of record shows or suggests a current detecting unit comprising a first resistor coupled to the charging roller, a second resistor coupled between the first resistor and the potential, and a third resistor coupled between the second potential and a junction of the first and second resistor.

### ***Conclusion***

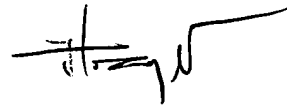
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoang Ngo whose telephone number is (571) 272-2138. The examiner can normally be reached on 6:00am - 2:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on (571) 272-2136. The

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fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Hoang Ngo  
Primary Examiner  
Art Unit 2852

Hxn